

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A display device of flat panel structure with emission devices of matrix array comprising:

an emitting region ~~constituted by~~ including:

a plurality of first electrodes provided on a substrate and extending in parallel with each other,

a plurality of second electrodes extending in parallel with each other which are provided on over said first electrodes ~~and extending substantially perpendicularly to extend perpendicular~~ to said first electrodes, and

a plurality of emission sites for emitting electrons or light respectively connected to a plurality of intersections between ~~said~~ the respective first and second electrodes and arranged over ~~on~~ said substrate; and

a peripheral region surrounding said emitting region on said substrate, ~~wherein~~;

first external repeating terminals provided on ends of said first electrodes respectively;

and

respective second external repeating terminals extending from a part of the peripheral region between respective pairs of adjacent first electrodes and connected to said second electrodes in said emitting region so that said respective second external repeating terminals are alternatingly arranged with the first electrodes, whereby the first and second groups of external repeating terminals for said first and second electrodes are collectively alternatingly provided side-by-side in a the part of said peripheral region.

2. (Cancelled)

3. (Cancelled)

4. (Original) A display device according to claim 1, wherein said substrate is a backside substrate; said first electrodes are bottom electrodes; said emission sites are electron emission sites having insulator layers formed on said bottom electrodes and top electrodes; and said second electrodes are connected to said top electrodes, the display device comprising a transparent front-side substrate which faces said top electrodes of said electron emission sites on said backside substrate with a vacuum space sandwiched therebetween.

5. (Currently Amended) A display device according to claim 4, wherein said electron emission sites have electron supply layers ~~constituted by~~ comprising a metal or semiconductor provided between said bottom electrodes and said insulator layers.

6. (Original) A display device according to claim 4, wherein said front-side substrate has collector electrodes formed on a surface thereof toward said vacuum space and luminescent layers formed on said collector electrodes.

7. (Original) A display device according to claim 4, wherein said front-side substrate has luminescent layers formed on a surface thereof toward said vacuum space and collector electrodes formed on said luminescent layers.

8. (Original) A display device according to claim 4, further comprising insulating protective films provided between said second electrodes and said insulator layers and between said second electrodes and said backside substrate.

9. (Original) A display device according to claim 4, further comprising insulating protective films provided between said first electrodes and said second electrodes at intersections between said first electrodes and said second electrodes.

10. (Original) A display device according to claim 1, wherein said emission sites are organic electroluminescence devices having one or more layers of an organic electroluminescence medium sequentially formed between said first and second electrodes.

11. (Original) A display device according to claim 10, wherein said substrate and said first electrodes are transparent.

12. (Original) A display device according to claim 10, wherein said first electrodes comprise a plurality of transparent electrodes associated with each of said organic electroluminescence devices and a metal bus line for electrically connecting said transparent electrodes.

13. (Original) A display device according to claim 10, wherein said second electrodes are transparent.

14. (Original) A display device according to claim 1,
wherein said emitting region is in a rectangular configuration and wherein the first and second external repeating terminals collectively provided side by side in a part of said peripheral region are located on one side of said rectangle.

15. (Original) A display device according to any of Claims 1 through 3, wherein said first and second external repeating terminals have an external terminal exposed to the outside.

16. (New) A display device of flat panel structure with emission devices of matrix array comprising:

a plurality of first electrodes provided on a substrate and extending in parallel with each other;

a plurality of second electrodes extending in parallel with each other which are provided over said first electrodes to extend perpendicular to said first electrodes;

a plurality of emission sites for emitting electrons or light respectively connected to a plurality of intersections between the respective first and second electrodes and arranged over said substrate; and

respective second external repeating terminals branching off from the second electrodes between respective pairs of adjacent first electrodes and extending therebetween so that the second external repeating terminals and the first electrodes are alternately arranged.

17. (New) A display device according to claim 16, wherein each of said respective second external repeating terminals branches from the second electrode in a form of a letter "T".

18. (New) A display device according to claim 16, further comprising first external repeating terminals provided on ends of said first electrodes and wherein said first and second external repeating terminals are alternatingly arranged.

19. (New) A display device according to claim 16, wherein said substrate is a backside substrate; said first electrodes are bottom electrodes; said emission sites are electron emission sites having insulator layers formed on said bottom electrodes and top electrodes; and said second electrodes are connected to said top electrodes, the display device comprising a transparent front-side substrate which faces said top electrodes of said electron emission sites on said backside substrate with a vacuum space sandwiched therebetween.

20. (New) A display device according to claim 19, wherein said electron emission sites have electron supply layers comprising a metal or semiconductor provided between said bottom electrodes and said insulator layers.

21. (New) A display device according to claim 19, wherein said front-side substrate has collector electrodes formed on a surface thereof toward said vacuum space and luminescent layers formed on said collector electrodes.

22. (New) A display device according to claim 19, wherein said front-side substrate has luminescent layers formed on a surface thereof toward said vacuum space and collector electrodes formed on said luminescent layers.

23. (New) A display device according to claim 19, further comprising insulating protective films provided between said second electrodes and said insulator layers and between said second electrodes and said backside substrate.

24. (New) A display device according to claim 19, further comprising insulating protective films provided between said first electrodes and said second electrodes at intersections between said first electrodes and said second electrodes.

25. (New) A display device according to claim 16, wherein said emission sites are organic electroluminescence devices having one or more layers of an organic electroluminescence medium sequentially formed between said first and second electrodes.

26. (New) A display device according to claim 25, wherein said substrate and said first electrodes are transparent.

27. (New) A display device according to claim 25, wherein said first electrodes comprise a plurality of transparent electrodes associated with each of said organic electroluminescence devices and a metal bus line for electrically connecting said transparent electrodes.

28. (New) A display device according to claim 25, wherein said second electrodes are transparent.

29. (New) A display device according to claim 17, wherein the first and second external repeating terminals collectively provided side by side in a part of said peripheral region are located on one side of said rectangle.

30. (New) A display device according to claim 17, wherein said first and second external repeating terminals have an external terminal exposed to the outside.

31. (New) An emission flat panel structure with emission devices of matrix array comprising:

a plurality of first electrodes provided on a substrate and extending in parallel with each other;

a plurality of second electrodes extending in parallel with each other which are provided over said first electrodes to extend perpendicular to said first electrodes;

a plurality of emission sites for emitting electrons or light respectively connected to a plurality of intersections between the respective first and second electrodes and arranged over said substrate; and

respective second external repeating terminals branching off from the second electrodes between respective pairs of adjacent first electrodes and extending therebetween so that the second external repeating terminals and the first electrodes are alternately arranged.

32. (New) An emission flat panel structure according to claim 31, wherein each of said respective second external repeating terminals branches from the second electrode in a form of a letter "T."

33. (New) An emission flat panel structure according to claim 31, further comprising first external repeating terminals provided on ends of said first electrodes and wherein said first and second external repeating terminals are alternately arranged.

34. (New) An emission flat panel structure according to claim 31, wherein said emission sites are electron emission devices each comprising an insulator layer formed on said first electrode; and a top electrode formed on the insulator layer and connected to said second electrode.

35. (New) An emission flat panel structure according to claim 34, wherein each of said electron emission devices further comprises an electron supply layer including a metal or semiconductor provided between said first electrode and said insulator layer.

36. (New) An emission flat panel structure according to claim 34, further comprising insulating protective films provided between said second electrodes and said insulator layers and between said second electrodes and said substrate.

37. (New) An emission flat panel structure according to claim 34, further comprising insulating protective films provided between said first electrodes and said second electrodes at intersections between said first electrodes and said second electrodes.